Solve each equation

7) \(6 = -3(x + 2)\)
\[
\begin{align*}
6 &= -3x + (-6) \\
+16 &= -3x \\
\frac{12}{3} &= \frac{-3x}{3} \\
x &= -4
\end{align*}
\]

9) \(24 = 6(-x - 3)\)
\[
\begin{align*}
24 &= -6x - 18 \\
+18 &= -6x \\
\frac{42}{6} &= \frac{-6x}{-6} \\
x &= -7
\end{align*}
\]

8) \(-3(4r - 8) = -36\)
\[
\begin{align*}
-12r + 24 &= -36 \\
-12r &= -36 - 24 \\
-12r &= -60 \\
\frac{-12r}{-12} &= \frac{-60}{-12} \\
r &= 5
\end{align*}
\]

10) \(75 = 3(-6n - 5)\)
\[
\begin{align*}
75 &= -18n - 15 \\
+15 &= -18n \\
\frac{90}{-18} &= \frac{-18n}{-18} \\
n &= 5
\end{align*}
\]
Steps for solving any Equation or Inequality

1) Distribute if you can.
2) Combine the like terms.
3) Solve the simplified equation by undoing in reverse.
4) Check your answer.

When solving an inequality, remember to reverse the symbol when multiplying or dividing both sides by a negative number. Look for the variable. If it is teamed up with a negative number then you will have to flip it!
Practice #2

\[-15z - 30 > 54\]

\[
\begin{align*}
-15z &> 84 \\
\frac{-15z}{-15} &\leq \frac{84}{-15} \\
\therefore z &< -7
\end{align*}
\]

You Try #2

\[7n - 8n - 3 < 23\]

\[
\begin{align*}
-3n - 3 &< 23 \\
-3n &< 26 \\
\frac{-3n}{-3} &> \frac{26}{-3} \\
\therefore n &> -26
\end{align*}
\]
Practice #5

\[-2(x + 1) \geq 23\]

\[
x + 2x + 2 \geq 23
\]

\[
7x + 2 = 23
\]

\[
\frac{7x}{7} = \frac{21}{7}
\]

\[
x = 3
\]

You Try #5

\[6y + 2(2y + 3) > 16\]

\[
6y + 4y + 6 > 16
\]

\[
10y + 6 > 16
\]

\[
10y > 10
\]

\[
y > 1
\]